

Did the WHI Results Affect Breast Cancer Incidence?

The decrease in breast cancer incidence might be linked to discontinuation of hormone therapy.

A recent analysis of the Surveillance, Epidemiology, and End Results (SEER) registry of the National Cancer Institute revealed that the age-adjusted incidence of breast cancer in U.S. women fell by 6.7% in 2003 compared with 2002. Further follow-up showed little change in breast cancer incidence in 2004 compared with 2003. The additional analysis included SEER data collected from nine cancer registries that accounted for 9% of the U.S. population. A comparison of incidence rates in 2001 and 2004 showed an increase of 1.3% in the incidence of breast cancer for women younger than 50, a decrease of 11.8% for women between 50 and 69, and a decrease of 11.1% for women 70 or older. Notably, in women between 50 and 69, the decrease was more striking for estrogen-receptor–positive tumors (14.7%) than for estrogen-receptor–negative tumors (1.7%).

Comment: What accounts for the sharp decline in breast cancer incidence in 2003 followed by a relatively stable incidence thereafter? Although the incidence of screening mammography decreased by 3.2% in 2003 among women who were 50 to 65, this change is insufficient to account for the lower incidence of breast cancer during the same period. Presumably, if women were not undergoing screening mammography, occult breast cancers would not be diagnosed. Contrary to the present findings, however, decreased rates of screening mammography would be expected to underlie similar decreases in incidences of both estrogen-receptor–positive and estrogen-receptor–negative tumors.

The decrease in breast cancer incidence appears to be related to publication, in 2002, of the Women's Health Initiative (WHI) report, which showed significantly increased risk for coronary heart disease and breast cancer among postmenopausal women who used hormone therapy (HT). As a result, the number of HT prescriptions declined sharply throughout 2002 and 2003 (from 62 million in 2000 to 27 million in 2003). This pattern of use might be expected to affect the development of occult estrogen-receptor–positive breast cancers and result in a sharp decline in diagnoses followed by stability in breast cancer incidence. The current data seem to support this supposition, as a decline in HT use would cause a decrease in breast cancer incidence at earlier time points but perhaps not eliminate tumors that will be diagnosed later. The use of other agents that can influence incidence of breast cancer (e.g., tamoxifen, raloxifene, statins, calcium, vitamin D) did not change during the course of this analysis. The true test of the HT hypothesis will be to monitor the incidence of breast cancer during the coming years. If the precipitous decline in the use of HT was responsible for the drop in breast cancer incidence, one might expect to see an increase in the future as occult breast cancers emerge clinically.

— **William J. Gradishar, MD**

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